

**A DRAFT POLICY FOR THE TRANSLOCATION OF
BROWN TROUT (*Salmo trutta*) AND RAINBOW TROUT
(*Oncorhynchus mykiss*) INTO AND WITHIN WESTERN
AUSTRALIA, FOR THE PURPOSES OF
RECREATIONAL STOCKING, DOMESTIC STOCKING,
COMMERCIAL AND NON-COMMERCIAL
AQUACULTURE**

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FISHERIES MANAGEMENT PAPER NO. 179

Department of Fisheries
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Perth WA 6000

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A draft policy for the translocation of brown trout (*Salmo Trutta*) and Rainbow trout (*Oncorhynchus mykiss*) into and within Western Australia for the purposes of recreational stocking, domestic stocking, commercial and non-commercial aquaculture

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POLICY DEVELOPMENT

It is intended that the final Management Paper will assist the Executive Director when considering the issue of authorisation for:

- Aquaculture purposes under Section 92 of the *Fish Resources Management Act 1994*; and
- The translocation of live non-endemic species under Regulation 176 of the *Fish Resources Management Regulations 1995* for both aquaculture and recreational stocking purposes.

It is being developed in accordance with:

- The principles of risk assessment;
- The principles outlined in Ministerial Policy Guideline No 5. *The aquaculture and recreational fishing stock enhancement of non endemic species in Western Australia*; and
- The principles and procedures outlined in the Memorandum of Understanding between the Environmental Protection Authority and the Department of Fisheries for the environmental assessment of translocation proposals.

OPPORTUNITY FOR PUBLIC COMMENT

The provision of the previous discussion paper (Fisheries Management Paper No. 156) and this draft management paper provide an initial information basis from which public comment and opinion may be derived. Comments are sought in relation to the draft management paper from all stakeholders, including industry members, relevant interest groups and interested members of the public.

Following the receipt of comments, consideration will be given to a final policy position on the translocation of brown trout and rainbow trout within Western Australia.

To ensure your submission is as effective as possible, please:

- Make it clear and concise;
- List your points according to the topic sections and page numbers in this paper;
- Describe briefly each topic or issue you wish to discuss;
- Say whether you agree or disagree with any or all of the information within each topic or just those of specific interest to you. Clearly state your reasons, particularly if you disagree, and give sources of information where possible; and
- Suggest alternatives to address any issues that you disagree with.

Your comments would be appreciated by 1 December 2004 and should be marked to the attention of the Translocation Officer, Fish and Fish Habitat Protection Program, and should be addressed to:

Executive Director
Department of Fisheries
3rd Floor, The Atrium
168 St George's Terrace
PERTH WA 6000

SECTION 1 BACKGROUND

Australia's freshwater aquatic environments are home to a unique array of native aquatic flora and fauna, the South West of Western Australia being a host to a number of significant areas and species of high conservation value. Some of these species are unique to WA, therefore serious consideration and management is required, should the further introduction of a non-endemic predatory species be considered for any purpose.

With the exception of the freshwater cobbler (*Tandanus bostocki*), the native freshwater fish in the south-west of WA are not of a sufficient size to be of interest to freshwater anglers. As a consequence, brown trout (*Salmo trutta*) and rainbow trout (*Oncorhynchus mykiss*) from the northern hemisphere were introduced in the late 1870s to provide a recreational fishery, which has created significant economic and social benefits for Western Australians.

Since then, brown trout and rainbow trout have been stocked into the State's rivers and impoundments under government auspices, generally for the purpose of supporting recreational fishing. Over the same period of time, farmers and other individuals have also stocked trout into artificial lakes and dams, either for their own private recreational fishing or to establish pay-fishing ventures open to the public. In addition, since the 1980s, commercial aquaculture of trout - predominantly rainbow trout - has been undertaken by a number of aquaculturists.

Commercial trout aquaculture production in WA has been valued as high as \$336,000 per annum, while the recreational value of trout fishing to the State has been estimated as high as \$3.3 million per annum. Importantly, any future translocation of either trout species, for either purpose, must balance the economic and social benefits with any associated biological and environmental risks.

Currently, translocation assessments in WA are made on a case-by-case basis, through the translocation risk assessment process as required by the Memorandum of Understanding established between the Department of Fisheries and the Environmental Protection Authority in 1997. This Memorandum of Understanding also provides for the development of this draft policy paper (Fisheries Management Paper No. 179).

This paper, prepared by the Department of Fisheries, has taken into account the submissions made on Fisheries Management Paper No. 156 (*The translocation of brown trout and rainbow trout into and within Western Australia*) and has sought advice on related issues from a wide range of stakeholders.

It should be noted under the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999* certain actions, including the translocation of non-endemic species, may require approval from the Commonwealth Environment Minister. The requirement for approval is triggered by an action that has, will have, or is likely to have, a significant impact on a matter of national environmental significance.

The matters of national environmental significance identified in the Act as triggers for the Commonwealth assessment and approval regime are¹:

- World Heritage properties;
- Ramsar wetlands;
- Nationally threatened species and ecological communities;
- Migratory species;
- Commonwealth marine areas; and
- Nuclear actions.

While the preceding discussion paper considered the level of impact that trout have in relation to other factors such as land clearing, water extraction, salinisation and pollution that have resulted in major changes to the freshwater environment, this management paper shall only provide for the management of trout translocations.

¹ Further information with respect to these issue may be found at: <http://www.environment.gov.au/epbc>.

SECTION 3 KEY ISSUES

The introduction of trout has provided a valuable recreational fishery throughout the rivers, dams and impoundments of the lower South West since the late 1870s. More recently, the aquaculture of both brown and rainbow trout has proved to be successful, with an annual production of around 50 tonnes.

However, as both trout species are non-endemic and predatory, their introduction for either recreational fishing or aquaculture purposes, has the potential to:

- Impact on the natural environment and biodiversity of endemic species;
- Impact on the genetic diversity of native species; and
- Introduce disease and parasites.

Fisheries Management Paper No. 156 identified the issues associated with the translocation of brown and rainbow trout for recreational stocking, domestic stocking, commercial and non-commercial aquaculture and these are summarised below.

3.1 Impact on the natural environment and the biodiversity of native species

Fisheries Management Paper No. 156 concluded that while trout have only established self-sustaining populations in a limited number of waterways in WA's South West, their presence does pose a significant risk to some of the 14 native fish species found in this region. The main interactions between trout and WA's native fishes are those of predation (by adult trout) and competition (between juvenile trout and native fish). The threat trout pose to native fish may vary, depending on factors such as (but not limited to):

- The native species' abundance;
- Biology (including feeding behaviour, breeding characteristics, size, diet etc);
- Habitat preference; and
- Distribution.

Of the 14 native fish present in the South West of Western Australia, trout pose the greatest risk to four of these species. These are trout minnow (*Galaxias truttaceus*), spotted minnow (*Galaxias maculatus*), western mud minnow (*Galaxiella munda*) and western minnow (*Galaxias occidentalis*).

The impact of trout on south-west freshwater crayfish - in particular its effect on marron, on which a licensed recreational fishery is based - has never been quantified.

However, studies have shown that decapod crustaceans can form part of trout diets and therefore there is a risk that trout could impact on populations of freshwater crayfish through predation. On this basis, trout have the potential to impact on the natural environment and the biodiversity of native species.

As previously discussed, the threat trout pose to the natural environment and biodiversity of native species must also be considered in the light of other environmental threats, such as land clearing, habitat destruction, climatic changes, and other introduced species. It is generally recognised the destruction of freshwater habitats from land and water management practices is the single largest threat to Australia's native fish fauna.

If trout recreational stocking is discontinued in aquatic systems that support feral redfin perch populations, it is likely the abundance of redfin perch would grow in these areas. This would lead to increasing competition for resources and associated predatory impacts on native species in these systems. As a result, it is not necessarily true that native WA species would benefit in all cases from the removal of trout from all south-west waterbodies.

It would appear the presence of trout serves to limit the numbers of redfin to some extent. This is supported by recent work undertaken (B. Molony, pers. com.) that indicates the removal of trout from aquatic environments, which support feral populations of red-fin perch, would result in an increased overall impact on native species, through increase competition and red-fin perch predation.

3.2 Impact on genetic diversity

The potential threat to genetic diversity may occur through two separate processes, predation and hybridisation.

Predatory processes may result in reduced gene pool size of native species or the eradication of isolated populations or even extinction. Regardless of the magnitude of the impact, the outcome of predation is reduced genetic diversity. As discussed in 3.1, increased predatory impacts may not necessarily result from the continued recreational stocking of trout within WA.

Hybridisation may also threaten genetic diversity when the same species (from differing genetic stock), or similar species capable of hybridisation, are introduced into existing native populations. As trout are an introduced species and no similar species occur naturally within WA, the introduction of trout will not impact upon the genetic integrity of the State's native biodiversity through hybridisation.

3.3 Introduced disease and parasites

The introduction of exotic or non-endemic parasites and diseases is always a potential risk with any translocation of fish. WA is fortunate in that a number of significant diseases affecting trout and other fish in other States and Territories are not present here.

The most significant trout disease in Western Australia has been the bacterium *Mycobacterium marinum*, which is now controlled through hatchery management and culling of infected fish. The relatively disease-free status of trout in Western Australia gives our aquaculture industry a competitive advantage over other States (with the exception of Tasmania) and appropriate controls on the importation of trout from interstate will minimise the risk of introducing new diseases.

While current management practices are applied to control *Mycobacterium marinum* at the Pemberton Freshwater Research Centre, disease testing for epizootic haematopoietic necrosis virus (EHNV) is also undertaken annually. It is proposed that any fish supplied for recreational stocking purposes should be disease tested to the satisfaction of the Department of Fisheries' senior fish pathologist prior to release.

SECTION 4 DRAFT POLICY

It is proposed that the translocation of trout into and/or within the State for recreational stocking, domestic stocking or aquaculture purposes may only be undertaken following written approval or written authority pursuant to Section 258 (h) of the *Fish Resources Management Act 1994* from the Executive Director of the Department of Fisheries or as otherwise prescribed within this draft policy.

Written approvals and authorities may be obtained through either the aquaculture licensing process or the translocation risk assessment process, as required.

4.1 Approved Areas

Proposed drainage basins in which the translocation of trout may be permitted, have been established through the consideration of the following criteria, evaluating both economic, social and environmental aspects:

- Past aquaculture and recreational stocking practices;
- Quality and access to individual recreational fisheries;
- Bio-security² of aquaculture systems used;
- Ability of introduced trout to impact on existing food chains and webs and other existing ecosystem processes;
- Presence of habitats or native species of special significance (for example, the hairy marron population in Margaret River);
- Non-endemic predatory species;
- Presence of Ramsar wetlands;
- Distribution of native fish which have been recognised as near-threatened in the Australian Society for Fish Biology's Conservation status of Australian fishes list - being the western mud minnow (*Galaxiella munda*), Balstons' pygmy perch (*Nannatherina balstoni*), salamanderfish (*Lepidogalaxias salamandroides*) and black-stripe minnow (*Galaxiella nigrostriata*); and
- Distribution of native fish which are vulnerable to predation from or competition with trout - being the trout minnow (*Galaxias truttaceus*), spotted minnow (*Galaxias maculatus*), western mud minnow (*Galaxiella munda*), western minnow (*Galaxias occidentalis*) and native freshwater crayfish species.

Three categories have been proposed to establish an appropriate level of environmental protection, while providing for sustainable aquaculture development and recreational stocking activities.

- **Category 1** relates to domestic stocking and aquaculture activities and includes areas of higher conservation values where previous recreational stocking activities have generally not occurred.

² Bio-security - see glossary for definition.

- **Category 2** relates to domestic stocking and aquaculture activities and includes areas of lower conservation value and a clear history of recreational stocking practices within its boundaries.
- **Category 3** relates to recreational stocking and includes areas of lower conservation value and a clear history of recreational stocking practices within its boundaries

As a result, it is proposed that drainage basins within the South West Drainage Division are categorised as follows:

Category 1 - Drainage basins in which the translocation of brown and rainbow trout may be permitted for aquaculture purposes, subject to **higher** bio-security measure.

Category 2 - Drainage basins in which the translocation of brown and rainbow trout may be permitted for aquaculture purposes, subject to **lower** bio-security measures.

Category 3 - Drainage basins in which the translocation of brown and rainbow trout may be permitted for recreational stocking purposes, subject to conditions.

Brown and rainbow trout held in closed recirculated tank systems may be stocked in any drainage division within Western Australia, subject to conditions.

Figure 1 and 2 illustrate the south-west drainage basins within WA and the categories assigned to each.

Any proposal to stock brown or rainbow trout outside the provisions of this proposed management paper will be considered on a case-by-case basis, through the Department of Fisheries' translocation risk assessment and/or the aquaculture licensing process.

4.2 Non-commercial aquaculture or domestic stocking

For the purposes of this policy, non-commercial aquaculture or domestic stocking is defined as:

“The stocking of trout in water bodies on private land for non-commercial purposes, aquaculture or otherwise, by a person that does not require an aquaculture licence.”

For aquaculture licence requirements, please refer to the Department of Fisheries leaflet “*Do You Need an Aquaculture Licence?*” (see Appendix 4).

It is proposed that the translocation of brown and rainbow trout to private properties for non-commercial aquaculture may be permitted within Category 1 and 2 drainage basins, subject to conditions.

Within Category 1 drainage basins, trout may only be stocked:

- In tank, pond or dam systems which have **not** been constructed along water courses, that have a controlled³ or no discharge and no capacity to overflow in the event of a flood; and
- In accordance with translocation authority conditions.

Note that trout must not be released into any waterways on either public or private land within these drainage basins.

Within Category 2 drainage basins, trout may only be stocked:

- As in Category 1;
- Or in pond/dam systems which have been constructed along water courses (also referred to as ‘gully dams’);
- In accordance with translocation authority conditions.

Prior to the translocation of trout for non-commercial aquaculture, written authority is required from the Executive Director of the Department of Fisheries.

Persons seeking written authority will be required to submit a translocation application form and the associated application fee⁴. The Department of Fisheries will determine, based on the information provided, whether a property inspection is required to assess the level of risk of escape and the proximity of the property to environmentally significant areas.

Trout translocated for non-commercial aquaculture or domestic stocking purposes must remain on the property as specified, unless they are removed as dead, processed product for private consumption.

Trout currently stocked for non-commercial or domestic stocking purposes within existing translocation provisions do not require any further approvals. Further approval is required for any future translocations that are not provided for by an existing translocation approval.

The stocking of brown trout in Category 1 or 2 drainage basins for non-commercial purposes is unlikely to be approved for aquaculture facilities that represent a low level of bio-security, such as those using gully dams.

Note that brown and rainbow trout held in closed recirculated tank systems may be stocked in any drainage division within WA subject to conditions).

³ Controlled discharge – see glossary for definition

⁴ Non-profit making organisation may be considered for a fee waiver for translocation applications, where multiple property assessments are required, subject to the approval of the Department of Fisheries’ Executive Director. This provision would not apply to individual non-commercial or domestic stocking applications.

4.3 Commercial Aquaculture

For the purposes of this draft policy, commercial aquaculture is defined as the stocking of trout in water bodies for commercial aquaculture purposes. The translocation of trout for stocking in farm dams or ponds on private property for pay-fishing ventures is also considered as commercial aquaculture. For aquaculture licence requirements, please refer to the Department of Fisheries leaflet “*Do You Need an Aquaculture Licence?*” (Appendix 4).

It is proposed that the translocation of brown and rainbow trout to private properties for commercial aquaculture may be permitted within Categories 1 and 2 drainage basins.

Where the owner of the property has determined that they are undertaking commercial aquaculture, stocking is subject to the following:

Within Category 1 drainage basins, trout may only be stocked:

- In tank, pond or dam systems which have **not** been constructed along water courses, that have a controlled⁵ or no discharge and no capacity to overflow in the event of a flood; and
- In accordance with aquaculture licence conditions.

Trout must not be released or allowed to escape into any waterways on either public or private land, within these drainage basins.

Within Category 2 drainage basins, trout may only be stocked:

- As in Category 1;
- Or in pond/dam systems which have been constructed along water courses (also referred to as gully dams); and
- In accordance with aquaculture licence conditions.

Prior to the translocation of trout for commercial aquaculture, written approval is required from the Executive Director of the Department of Fisheries. If written approval is granted, the owner of the property may continue to stock trout on the property as stated in their aquaculture licence, unless otherwise advised in writing.

Persons seeking written approval will be required to submit an aquaculture licence application form and the associated application fee. The Department of Fisheries will determine, based on the information provided, whether a property inspection is required to confirm the facilities bio-security level and the proximity of the property to any declared environmentally significant areas.

Trout currently stocked for commercial purposes within existing translocation and aquaculture licensing provisions do not require further approvals. Further approval

⁵ Controlled discharge – see glossary for definition

may be required for any future translocations not provided for by existing translocation/aquaculture licensing provisions.

The stocking of brown trout in Category 1 or 2 drainage basins is unlikely to be approved for aquaculture facilities that represent a low level of bio-security, such as those using gully dams.

Brown and rainbow trout held in closed recirculated tank systems may be stocked in any drainage division within Western Australia, subject to conditions.

4.4 Recreational Stocking

Past stocking practices have been developed by the trout stocking sub-committee of the Recreational Fishing Advisory Committee (RFAC) through the annual production of a trout stocking list. The stocking has been undertaken by the Department of Fisheries, with trout sourced from the Pemberton Freshwater Research Centre.

It is proposed that the activities of the trout stocking committee be formalised through the establishment of a Recreational Freshwater Fisheries Stakeholder Sub-committee. This committee shall ensure all decisions relating to trout stocking are made in conjunction with other inland fishery groups.

Guidelines should be developed by the Recreational Freshwater Fisheries Stakeholder Sub-committee for its operation to include terms of reference and appropriate membership to include as a minimum;

- RFAC
- The Department of Fisheries
- Recfishwest;
- The WA Trout and Freshwater Angling Association;
- Two licence holders (one marron, one freshwater);
- The Water Corporation;
- Waters and Rivers Commission/the Department of Environment; and
- One representative with a conservation background.

While stocking strategies are to be developed by the Recreational Freshwater Fisheries Stakeholder Sub-committee, stocking approval shall be sought prior to any stocking activities, from the Department of Fisheries' Executive Director, by providing formal advice in relation to annual stocking proposals. Advice should include the size, number and life stage⁶ of the fish to be stocked and the proposed stocking dates and locations. It should also detail the individuals and groups represented throughout the decision-making process.

⁶ Fry, fingerlings or year-class of fish

It is proposed that such activities undertaken in the future should be conducted in accordance with this proposed management paper - and that any recreational stocking activities may only be undertaken by the Department of Fisheries.

For reason previously discussed in Section 4.1 of this paper, it has been proposed that recreational stocking activities are limited to Category 3 drainage basins. The following stocking guidelines have also been proposed, through consideration of historical stocking practices, current fishery access and recreational fishery values, while providing the appropriate level of environmental protection.

The translocation of rainbow trout for stocking in public waterbodies for the purposes of recreational stocking has been proposed to be permitted only within Category 3 drainage basins as follows:

- 602 Within the King River and its immediate tributaries.
- 607 Within the Lefroy Brook and the Warren Rivers and their immediate tributaries.
- 608 Within the Donnelly River and its immediate tributaries.
- 609 Within the Blackwood River and the Lefroy River and their immediate tributaries.
- 611 Only within Glen Mervyn Dam.
- 612 Within the Brunswick and the Collie River and their immediate tributaries to the east of the South West Highway, and below the headwaters⁷ of the highest accessible dam or reservoir.
- 613 Within Harvey River, Logue Brook, Drakes Brook, Sampson Brook and Mcknoe Brook to the east of the South West Highway, below the headwaters of the highest accessible dam or reservoir. No trout are to be stocked in Bancell Brook.
- 614 Within, Murray River, Marrinup Brook, Oakley Brook, Dirk Brook and Gooralong Brook to the east of the South West Highway, and below the headwaters of any accessible dam or reservoir⁸.

For the purposes of this policy, the stocking of trout in public waterways that traverse private properties is also considered recreational stocking, as the fish are not contained within the property boundaries.

4.4.1 Recreational stocking of brown trout

Historical stocking of brown trout has shown that the species has an ability to form self-sustaining populations, with a number of these populations currently in existence. Their apparent limited ability to co-existence with rainbow trout, has been reported to detract from their general recreational fishery attributes.

⁷ Source streams or watershed that flow into dams or reservoir as described.

⁸ Where a watercourse has been identified as suitable for the continued stocking of rainbow trout which supplies more than one irrigation dam along its length, trout may be stocked up to, and within, the highest accessible irrigation dam.

Due to these characteristics, existing populations and past low-level stocking activities, it is proposed that in general no further translocation of brown trout will be undertaken for recreational stocking purposes. However, should there be cause to consider the stocking of this species for specific recreational, environmental or any other reason, this may be achieved through the Department of Fisheries' translocation risk assessment process.

4.5 The use of triploid trout

Accepting the increased growth rates and reduced fertility represented by triploid fish, there could be direct benefits to both aquaculture and recreational stocking activities to be gained through the use of triploid fish.

However, there has been limited adoption of triploid technology in Western Australia for domestic stocking, recreational stocking or the aquaculture of trout. It is therefore proposed that any application received in relation to the translocation of triploid trout for any of these purposes will be assessed on a case-by-case basis.

Table 1 Summary of the proposed policy for the aquaculture of both brown and rainbow trout.

Destination	Species	Location	Stock permitted for use	Criteria
Closed recirculated tank system with controlled or no discharge	Rainbow trout (<i>Oncorhynchus mykiss</i>) and or brown trout (<i>Salmo trutta</i>).	Any location within Western Australia	From any licenced or authorised farm in WA or as otherwise provided for through the translocation risk assessment process.	<ul style="list-style-type: none"> Commercial aquaculture permitted subject to an aquaculture licence and associated conditions, property assessment and possible site inspection (see Appendix 1). Non-commercial aquaculture permitted subject to translocation authority and associated conditions, property assessment and possible site inspection (see Appendix 1).
Pond or dam system with controlled or no discharge.	Rainbow trout (<i>Oncorhynchus mykiss</i>) and or brown trout (<i>Salmo trutta</i>).	Both Category 1 and 2.	From any licenced or authorised farm in WA or as otherwise provided for through the translocation risk assessment process.	<ul style="list-style-type: none"> Commercial aquaculture permitted subject to an aquaculture licence and associated conditions, property assessment and possible site inspection (see Appendix 2). Non-commercial aquaculture permitted subject to translocation authority and associated conditions, property assessment and a possible site inspection (see Appendix 2).
Pond or dam systems with a discharge, or where the systems may overflow in the event of a flood.	Rainbow trout (<i>Oncorhynchus mykiss</i>) only.	Category 2 only.	From any licenced or authorised farm in WA or as otherwise provided for through the translocation risk assessment process.	<ul style="list-style-type: none"> Commercial aquaculture permitted subject to an aquaculture licence and associated conditions, and possible site inspection (see Appendix 3). Non-commercial aquaculture permitted subject to translocation authority and associated conditions and a possible site inspection (see Appendix 3).

Table 2 Summary of the proposed policy for the recreational stocking of rainbow trout.

Destination	Species	Location	Stock permitted for use	Criteria
Waterways of the lower south-west of WA, for recreational stocking purposes.	Rainbow trout (<i>Oncorhynchus mykiss</i>) only.	Category 3 only.	Stocked shall only be sourced from the Pemberton Freshwater Research Centre.	<ul style="list-style-type: none"> Recreational stocking may only be undertaken as per Section 4.4 of this document by the Department of Fisheries,

4.6 Source of Stock

4.6.1 *Within Western Australia*

It is proposed that live trout for domestic stocking, commercial or non-commercial aquaculture may only be obtained from persons or companies who have obtained written translocation authority or who hold an aquaculture licence endorsed for the aquaculture of brown and/or rainbow trout.

As the disease risk status of each individual aquaculture facility may potentially vary, depending on the diversity of the aquaculture activities undertaken at each location. It is proposed that those fish to be sourced by the Department of Fisheries for recreational stocking purposes, shall only be sourced from the Pemberton Freshwater Research Centre and disease tested to the satisfaction of the Department of Fisheries' Senior Fish Pathologist prior to release.

Such limitations will aid to reduce the risk of the unintentional release of non-endemic and or exotic parasites and diseases into the State's aquatic environments. Should fish need to be sourced from other locations, this shall be assessed on a case-by-case basis, through the translocation risk assessment process.

The communication of disease risk and any risk minimisation protocols required, associated with the source of stock, will be communicated to the proponent through either the translocation assessment or aquaculture licencing processes, as required.

4.6.2 *Interstate*

Applications to import brown or rainbow trout from other states will be considered on a case-by-case basis through the translocation risk assessment process. Prior to the importation of trout from interstate, written Authority is required from the Executive Director of the Department of Fisheries, as in agreement with the Environmental Protection Authority (EPA).

4.7 Property Inspection and Assessment

Applications for written approval from the Executive Director for aquaculture or domestic stocking purposes may require a property inspection to confirm bio-security levels and the proximity of the property to environmentally significant areas. Property inspections will be undertaken by an officer of the Department of Fisheries, or their nominee, and may be at the expense of the applicant (see Appendix 5).

In determining the proximity of water bodies to be stocked with trout to environmentally significant areas, the Department of Fisheries may consult with other government agencies (such as the Department of Environment, Water and Rivers Commission, local Shires, Freshwater Fish and Environment Reference Committee,

etc.), educational institutions (such as Murdoch University, University of Western Australia, etc) and any other persons/organisations who have a knowledge of environmentally significant areas.

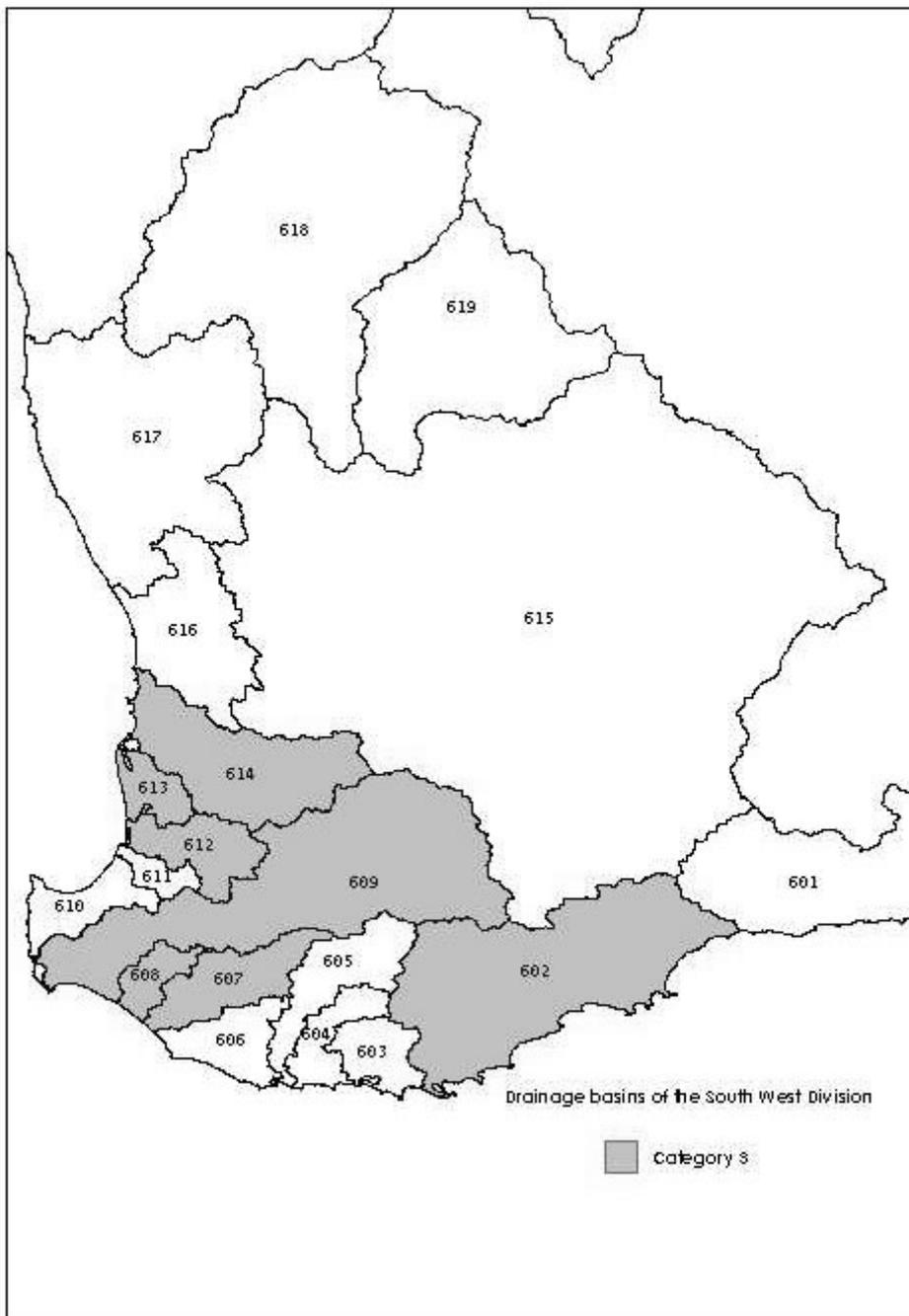
Figure 1 Categories 1 and 2 within the South West Drainage Division



Category 1 - Drainage basins in which the translocation of brown and rainbow trout may be permitted for aquaculture purposes, subject to **higher** bio-security measures.

Category 2 - Drainage basins in which the translocation of brown and rainbow trout may be permitted for aquaculture purposes, subject to **lower** bio-security measures.

Figure 2 Category 3 within in the South West Drainage Division



Category 3: Drainage basins in which the translocation of rainbow trout for the purpose of recreational stocking may be permitted subject to conditions.

APPENDIX 1

Conditions for the non-commercial or commercial aquaculture of both brown and rainbow trout in closed recirculated tank systems within any drainage basin in Western Australia

1. The fish shall be held within a bio-secure closed recirculated tank system, that has a controlled or no discharge and no capacity to overflow in the event of a flood. Any outlets shall be screened to prevent the release of fish.
2. At least 48 hours prior to transport of the fish, the Department of Fisheries Translocation Officer shall be notified of the date, time and mode of transport of the fish to their final destination.
3. The fish shall be sourced from a batch that has been certified as disease-free to the satisfaction of the Department of Fisheries' Senior Fish Pathologist (08 9368 3649). If required, a copy of the disease-free certificate shall be forwarded to the Department of Fisheries' Translocation Officer at least 48 hours prior to transportation of the fish.
4. The fish shall be transported directly from their source to the proposed holding facility with no prior unpacking or processing.
5. Any waste water from transport or aquaculture operations shall be:
 - Disposed of on dry ground at least 100 metres away from any other temporary or permanent water body or waterway; or
 - Disposed of by discharge to a soak well system that does not have the facility for surface water flow; or
 - Sterilised by treatment with chlorine to 50 parts per million for 10 minutes, prior to discharge.
6. The fish are not to be removed from the facility except for the purpose of consumption, without the prior written approval or written authority of the Department of Fisheries' Executive Director.
7. Any unusually high mortalities or signs of disease shall be reported to the Department of Fisheries' Senior Fish Pathologist and the Translocation Officer, within 24 hours.
8. The holder of this approval shall comply with any request or inspection requirement by a Department of Fisheries Officer with respect to identification, health, quarantine and containment of the specified fish.
9. This approval relates to the translocation specified in this letter and prior written approval or written authority is required for any future proposal to translocate.

APPENDIX 2

Conditions for the non-commercial or commercial aquaculture of both brown and rainbow trout in Category 1 drainage basins

1. The fish shall be held in a bio-secure artificial pond or dam system, which has a controlled or no discharge and no capacity to overflow in the event of a flood. Any outlets shall be screened to prevent the release of fish.
2. At least 48 hours prior to transport of the fish the Department of Fisheries Translocation Officer shall be notified of the date, time and mode of transport of the fish to their final destination.
3. The fish shall be sourced from a batch that has been certified as disease-free to the satisfaction of the Department of Fisheries' Senior Fish Pathologist (08 9368 3649). If required a copy of the disease-free certificate shall be forwarded to the Department of Fisheries' Translocation Officer at least 48 hours prior to transportation of the fish.
4. The fish shall be transported directly from their source to the proposed holding facility with no prior unpacking or processing.
5. Any waste water from transport or aquaculture operations shall be:
 - Disposed of on dry ground at least 100 metres away from any other temporary or permanent water body or waterway; or
 - Disposed of by discharge to a soak well system that does not have the facility for surface water flow; or
 - Sterilised by treatment with chlorine to 50 parts per million for 10 minutes, prior to discharge.
6. The fish are not to be removed from the facility except for the purpose of consumption, without the prior written approval or written authority of the Department of Fisheries' Executive Director.
7. Any unusually high mortalities or signs of disease shall be reported to the Department of Fisheries Senior Fish Pathologist and the Translocation Officer, within 24 hours.
8. The holder of this approval shall comply with any request or inspection requirement by a Department of Fisheries Officer, with respect to identification, health, quarantine and containment of the specified fish.
9. This approval relates to the translocation specified in this letter and prior written approval or written authority is required for any future proposal to translocate.

APPENDIX 3

Conditions for the non-commercial or commercial aquaculture of both brown and rainbow trout in Category 2 drainage basins

1. The fish shall be held in ponds or dams designed to prevent the release of fish. Any outlets shall be screened to prevent their release, in the event of overflow or flood.
2. At least 48 hours prior to transport of the fish, the Department of Fisheries' Translocation Officer shall be notified of the date, time and mode of transport of the fish to their final destination.
3. The fish shall be sourced from a batch that has been certified as disease-free to the satisfaction of the Department of Fisheries' Senior Fish Pathologist (08 9368 3649). If required, a copy of the disease-free certificate shall be forwarded to the Department of Fisheries Translocation Officer at least 48 hours prior to transportation of the fish.
4. The fish shall be transported directly from their source to the proposed holding facility with no prior unpacking or processing.
5. Any waste water from transport or aquaculture operations shall be:
 - Disposed of on dry ground at least 100 metres away from any other temporary or permanent water body or waterway; or
 - Disposed of by discharge to a soak well system that does not have the facility for surface water flow; or
 - Sterilised by treatment with chlorine to 50 parts per million for 10 minutes, prior to discharge.
6. The fish are not to be removed from the facility except for the purpose of consumption, without the prior written approval or written authority of the Department of Fisheries' Executive Director.
7. Any unusually high mortalities or signs of disease shall be reported to the Department of Fisheries' Senior Fish Pathologist and the Translocation Officer, within 24 hours.
8. The holder of this approval shall comply with any request or inspection requirement by a Department of Fisheries Officer, with respect to identification, health, quarantine and containment of the specified fish.
9. This approval relates to the translocation specified in this letter and prior written approval or written authority is required for any future proposal to translocate.

APPENDIX 4

Do You Need An Aquaculture Licence?

Other Government Agencies

If you determine that you are not conducting a business that requires an Aquaculture Licence, your activities as a hobbyist may still need the approval of the Waters and Rivers Commission, your local government authority or the Department of Environmental Protection. You should check with these authorities before continuing your activities.

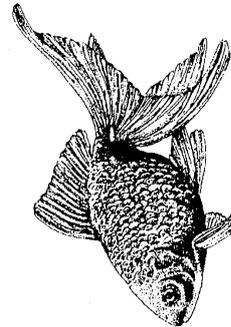
Please Note

The regulation of aquaculture activities is provided for in the *Fish Resources Management Act 1994* (in particular Sections 90 & 91) and the *Fish Resources Management Regulations 1995* (in particular Regulation 68).

The information in this brochure should assist you in determining whether your aquaculture activities are commercial or not for the purposes of the *Fish Resources Management Act 1994*. It is not intended as a checklist. Even if you can discount one or all of the elements outlined above it does not automatically mean you are not carrying on a business.

If your activities are carried out for a commercial purpose, or are not for hobby purposes, then you should apply to Fisheries WA for an Aquaculture Licence.

For further assistance, or should you wish to apply for an Aquaculture Licence, please contact Fisheries WA to obtain the required application form.



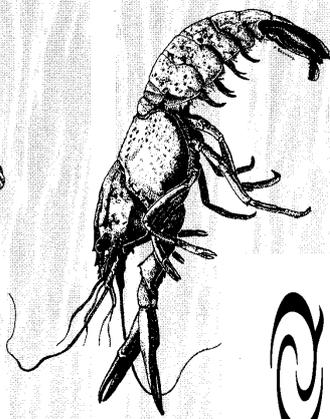
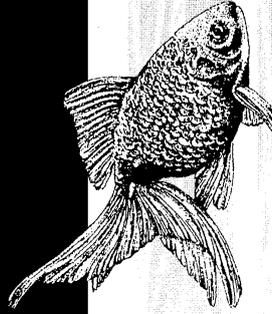
Enquiries

For enquiries about making applications please contact:

Perth -
 FISHERIES WESTERN AUSTRALIA
 3rd Floor, SGIO Atrium,
 168 St George's Terrace, PERTH WA 6000
 Ph: (08) 9482 7333 Fax: (08) 9482 7389

Do You Need an Aquaculture Licence?

Your guide to distinguishing business from hobby



FISHERIES WESTERN AUSTRALIA



September 1999

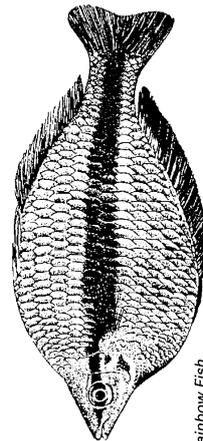
Do You Need an Aquaculture Licence?

It is a legal requirement under the *Fish Resources Management Act 1994* that a person who keeps, breeds, hatches or cultures fish must hold an Aquaculture Licence. A number of exceptions to this requirement are provided for in the *Fish Resources Management Regulations 1995*. These include:

- keeping fish for non-commercial purposes
- keeping fish, except marron, for display or ornamental hobby purposes
- keeping fish for display or ornamental purposes in retail establishments
- keeping fish for display in public aquaria or an oceanarium

Are you undertaking Aquaculture Activities for 'Commercial' Purposes?

Under the *Fish Resources Management Act 1994*, the term 'commercial purpose' means "for the purpose of sale or any other purpose that is directed to gain or reward".



Rainbow Fish

Are You Undertaking Aquaculture Activities for 'Hobby' Purposes?

The keeping, breeding, hatching or culturing of fish for 'hobby' purposes, even if an incidental income is generated by the activity, is a specific exception to the requirement that a person hold an Aquaculture Licence. A hobby purpose can be taken to exist where:

- the purpose of the activity is primarily a hobby, or is for recreational purposes; and
- the activity was not entered into for the purpose of income generation or profit making; and
- the activity does not result in a profit, or if it results in a profit, the profit is not sufficient to render the activity commercially viable.

In addition to the above three points, there are a number of other factors which may be relevant to the question of whether fish are being kept for commercial rather than 'hobby' purposes. These factors relate to whether or not the activity is carried on in the same way as a business enterprise is conducted, and include:

- keeping records
- advertising fish for sale
- using a registered business name
- the level of capital invested
- the existence of a prepared business plan
- undertaking market research
- the scale on which activity is conducted
- the regularity of commercial transactions
- borrowing money at commercial rates

Discus Fish



What Is Meant by The 'Keeping' of Fish?

The 'keeping' of fish may infer something more than the mere 'holding' of live fish and may include, for example, the growout of fish, feeding of fish or providing artificial habitat or shelter for fish. There may be a requirement for you to possess a Fish Processors licence if you are holding fish for subsequent packaging and marketing. Contact Fisheries WA if you are unsure.

Yabbies, Koonacs and Gilgies

Any person selling yabbies, koonacs and gilgies from a dam or lake on private land in the area permitted for farming these species, does not require an Aquaculture Licence if:

- the person is the owner or occupier of the land; and
- the yabbies, koonacs and gilgies are sold to a person who is authorised by an Aquaculture Licence to purchase the fish.

APPENDIX 5 Property inspection for the farming or stocking of brown or rainbow trout

PROPERTY DETAILS	
Name of Property owner:	
Address of property	----- ----- -----
Telephone:	Facsimile:

Please append maps, diagrams, photos or any details necessary to support the assessment.

PURPOSE OF STOCKING	
Domestic use / Commercial use:	
If commercial, does the property owner possess an aquaculture licence?	
If so, Licence number is:	
In which drainage basin does the property lie:	
Category of this drainage basin:	
Proximity of property to any sensitive areas within that drainage basin:	
Culture Method (please circle)	Tanks Dams Ponds
Other (please specify)	
Describe water intake and outlet:	
Is the water outlet fitted with a screen suitable to prevent fish escape?	
Describe screen:	
Proximity of aquaculture system to rivers, streams or seasonal creeks.	
Name of closest river or stream:	

SOURCE OF STOCK	
Name of Supplier	
Address of Supplier	
Number of fish	

APPROVED	NOT APPROVED
-----------------	---------------------

Comments / Conditions:

DETAILS OF INSPECTION	
Performed by:	
Company:	
Address:	
Telephone:	Facsimile:
Date:	
Signature:	

APPENDIX 6 How to submit fish for disease diagnosis

How to Send Samples

Quick action is usually required to diagnose and control fish diseases. Aquaculturists should telephone or fax the Fish Health Section as soon as disease problems arise. Certain cases can be solved by discussion alone. Should specimens be required for laboratory diagnosis, the methods of sampling and shipment will be advised.

Samples required for disease diagnosis

1.



Three affected fish in a waterproof bag filled with two-thirds water and one-third air.

2.



A sample of water from the tank in a clean glass container, filled to the top.

Or



If live fish are not available - send three affected fish (not frozen) on ice or ice bricks.

Putrid samples are of little or no use!



FISH HEALTH SECTION
3 Barron-Hay Court,
South Perth, WA 6151
Australia

Phone: 08 9368 3357
Fax: 08 9474 1881

GLOSSARY

- Appropriate level of protection** - The level of protection deemed appropriate by the State establishing measures to protect environmental health
- Commercial aquaculture** - The stocking of fish for commercial aquaculture purposes, refer to the Department of Fisheries leaflet *Do you need an aquaculture licence?* See Appendix 4. The translocation of trout for stocking in farm dams or ponds on private property for pay fishing ventures is also considered commercial aquaculture.
- Bio-security** - The level of security, generally associated with biological risks such as disease and feral species introductions.
- Closed recirculating aquaculture system (RAS)** – Refer to “Closed recirculated tank system”.
- Closed recirculated tank system** – Tank-based culture, often housed in an indoor facility, isolated from any external natural or artificial water bodies. Dependent on the recirculation of water to support all aquaculture production, often through the use of physical and biological filtration.
- Controlled discharge** – Water outlet or overflow that may be used to control the release of water during routine maintenance or flood conditions, that allows the level of control required to prevent the release of fish into surrounding aquatic habitats.
- Department of Fisheries translocation risk assessment process** - Risk assessment process establish to assess the risk of the translocation of non-endemic species into and within the State, in accordance with a Memorandum of Understanding established with the Environmental Protection Authority.
- Domestic stocking** - The stocking of fish on private property for non-commercial recreational purposes.
- Endemic** - Native to and exclusive to a particular geographical region.
- Ecologically Sustainable Development** – “Using, conserving and enhancing the community’s resources so ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased”. Refer to the *National Strategy for Ecological Sustainable Development, 1992*.
- Fish** – As per the *Fish Resources Management Act, 1994* and includes eggs, ova, fry, fingerlings and adults or as detailed.
- Food chain** - A sequence of organisms on successive trophic levels within a community, through which energy is transferred.
- Food web** - The network of interconnected food chains of a community.
- Native** - Indigenous animal or plant.
- Non commercial aquaculture** - The stocking of fish for non-commercial aquaculture purposes, refer to the Department of Fisheries leaflet *Do you need an aquaculture licence?* See Appendix 4.

Non-endemic - A species that exists or is translocated beyond its natural range.

Recreational stocking – The stocking of fish in public water bodies for recreation fishing purposes.

Translocation - Movement of aquatic organisms.

Triploid trout – Trout having three sets of homologous chromosomes generally achieved through artificial breeding techniques, usually representing reduced fertility, increased longevity and biological vigour.

Trophic level - The sequence of steps in a food chain or web from producer (plant) to primary, secondary or tertiary consumer.

FISHERIES MANAGEMENT PAPERS

- No. 1** The Report of the Southern Western Australian Shark Working Group. Chairman P. Millington (1986)
- No. 2** The Report of the Fish Farming Legislative Review Committee. Chairman P. Rogers (1986)
- No. 3** Management Measures for the Shark Bay Snapper 1987 Season. P. Millington (1986)
- No. 4** The Esperance Rock Lobster Working Group. Chairman A. Pallot (1986).
- No. 5** The Windy Harbour - Augusta Rock Lobster Working Group. Interim Report by the Chairman A. Pallot (1986)
- No. 6** The King George Sound Purse Seine Fishery Working Group. Chairman R. Brown (1986)
- No. 7** Management Measures for the Cockburn Sound Mussel Fishery. H. Brayford (1986)
- No. 8** Report of the Rock Lobster Industry Advisory meeting of 27 January 1987 . Chairman B. Bowen (1987)
- No. 9** Western Rock Lobster Industry Compensation Study. Arthur Young Services (1987)
- No. 10** Further Options for Management of the Shark Bay Snapper Fishery. P. Millington (1987)
- No. 11** The Shark Bay Scallop Fishery. L. Joll (1987)
- No. 12** Report of the Rock Lobster Industry Advisory Committee to the Hon Minister for Fisheries 24 September 1987. (1987)
- No. 13** A Development Plan for the South Coast Inshore Trawl Fishery. (1987)
- No. 14** Draft Management Plan for the Perth Metropolitan Purse Seine Fishery. P. Millington (1987)
- No. 15** Draft management plan, Control of barramundi gillnet fishing in the Kimberley. R. S. Brown (1988)
- No. 16** The South West Trawl Fishery Draft Management Plan. P. Millington (1988).
- No. 17** The final report of the pearling industry review committee . F.J. Malone, D.A. Hancock, B. Jeffriess (1988)
- No. 18** Policy for Freshwater Aquaculture in Western Australia. (1988)
- No. 19** Sport Fishing for Marron in Western Australia - Management for the Future. (1988)
- No. 20** The Offshore Constitutional Settlement, Western Australia 1988.
- No. 21** Commercial fishing licensing in Western Australia. (1989)
- No. 22** Economics and marketing of Western Australian pilchards. SCP Fisheries Consultants Pty Ltd (1988)
- No. 23** Management of the south-west inshore trawl fishery. N. Moore (1989)
- No. 24** Management of the Perth metropolitan purse-seine fishery. N. Moore (1989)
- No. 25** Rock Lobster Industry Advisory Committee report to the Minister for Fisheries November 1988. (1989)
- No. 26** A report on marron fishing in Western Australia. Chairman Doug Wenn MLC (1989)
- No. 27** A review of the Shark Bay pearling industry. Dr D.A.Hancock, (1989)
- No. 28** Southern demersal gillnet and longline fishery. (1989)

- No. 29** Distribution and marketing of Western Australian rock lobster. P. Monaghan (1989)
- No. 30** Foreign investment in the rock lobster industry. (1989)
- No. 31** Rock Lobster Industry Advisory Committee report to the Hon Minister for Fisheries September 1989. (1989)
- No. 32** Fishing Licences as security for loans. P. Rogers (1989)
- No. 33** Guidelines for by-laws for those Abrolhos Islands set aside for fisheries purposes. N. Moore (1989)
- No. 34** The future for recreational fishing - issues for community discussion. Recreational Fishing Advisory Committee (1990)
- No. 35** Future policy for charter fishing operations in Western Australia. P. Millington (1990)
- No. 36** Long term management measures for the Cockburn Sound restricted entry fishery. P. Millington (1990)
- No. 37** Western rock lobster industry marketing report 1989/90 season. MAREC Pty Ltd (1990)
- No. 38** The economic impact of recreational fishing in Western Australia. R.K. Lindner, P.B. McLeod (1991)
- No. 39** Establishment of a registry to record charges against fishing licences when used as security for loans. P. Rogers. (1991)
- No. 40** The future for Recreational Fishing - Forum Proceedings. Recreational Fishing Advisory Committee (1991)
- No. 41** The future for Recreational Fishing - The Final Report of the Recreational Fishing Advisory Committee. Recreational Fishing Advisory Committee (1991)
- No. 42** Appendix to the final report of the Recreational Fishing Advisory Committee. (1991)
- No. 43** A discussion of options for effort reduction. Southern Gillnet and Demersal Longline Fishery Management Advisory Committee (1991)
- No. 44** A study into the feasibility of establishing a system for the buy-back of salmon fishing authorisations and related endorsements. (1991)
- No. 45** Draft Management Plan, Kimberley Prawn Fishery. (1991)
- No. 46** Rock Lobster Industry Advisory Committee, Chairman's report to the Minister (1992)
- No. 47** Long term management measures for the Cockburn Sound restricted entry fishery. Summary of submissions and final recommendations for management. P. Millington (1992)
- No. 48** Pearl oyster fishery policy guidelines (Western Australian Pearling Act 1990) Western Australian Fisheries Joint Authority (1992)
- No. 49** Management plan, Kimberley prawn fishery. (1992)
- No. 50** Draft management plan, South West beach seine fishery. D.A. Hall (1993)
- No. 51** The west coast shark fishery, draft management plan. D.A. Hall (1993)
- No. 52** Review of bag and size limit proposals for Western Australian recreational fishers. F.B. Prokop (May 1993)
- No. 53** Rock Lobster Industry Advisory Committee, Chairman's report to the Minister for Fisheries. (May 1993)
- No. 54** Rock Lobster Industry Advisory Committee, Management proposals for 1993/94 and 1994/95 western rock lobster season (July 1993)

- No. 55** Rock Lobster Industry Advisory Committee, Chairman's report to the Minister for Fisheries on management proposals for 1993/94 and 1994/95 western rock lobster seasons (September 1993)
- No. 56** Review of recreational gill, haul and cast netting in Western Australia. F. B. Prokop (October 1993)
- No. 57** Management arrangements for the southern demersal gillnet and demersal longline fishery 1994/95 season. (October 1993)
- No. 58** The introduction and translocation of fish, crustaceans and molluscs in Western Australia. C. Lawrence (October 1993)
- No. 59** Proceedings of the charter boat management workshop (held as part of the 1st National Fisheries Manager Conference). A. E. Magee & F. B. Prokop (November 1993)
- No. 60** Bag and size limit information from around Australia (Regulations as at September 1993) F. B. Prokop (January 1993)
- No. 61** Economic impact study. Commercial fishing in Western Australia Dr P McLeod & C McGinley (October 1994)
- No. 62** Management arrangements for specimen shell collection in Western Australia. J. Barrington, G. Stewart (June 1994)
- No. 63** Management of the marine aquarium fish fishery. J. Barrington (June 1994)
- No. 64** The Warnbro Sound crab fishery draft management plan. F. Crowe (June 1994)
- No. 65** Not issued
- No. 66** Future management of recreational gill, haul and cast netting in Western Australia and summary of submissions to the netting review. F.B. Prokop, L.M. Adams (September 1994)
- No. 67** Long term management strategies for the Western Rock Lobster Fishery. (4 volumes) Evaluation of management options Volume 1. B. K. Bowen (September 1994)
- No. 68** Long term management strategies for the Western Rock Lobster Fishery. (4 volumes) Economic efficiency of alternative input and output based management systems in the western rock lobster fishery, Volume 2. R.K. Lindner (September 1994)
- No. 69** Long term management strategies for the Western Rock Lobster Fishery. (4 volumes) A market-based economic assessment for the western rock lobster industry, Volume 3. Marec Pty Ltd (September 1994)
- No. 70** Long term management strategies for the Western Rock Lobster Fishery. (4 volumes) Law enforcement considerations, Volume 4. N. McLaughlan (September 1994)
- No. 71** The Rock Lobster Industry Advisory Committee Chairman's Report, October 1994, The Western Rock Lobster Fishery - Management proposals for the 1994/95 and 1995/96 seasons (November 1994)
- No. 72** Shark Bay World Heritage Area draft management plan for fish resources. D. Clayton (November 1994)
- No. 73** The bag and size limit review: new regulations and summary of submissions. F. Prokop (May 1995)
- No. 74** Report on future management options for the South West trawl limited entry fishery. South West trawl limited entry fishery working group (June 1995)
- No. 75** Implications of Native Title legislation for fisheries management and the fishing industry in Western Australia. P. Summerfield (February 1995)
- No. 76** Draft report of the South Coast estuarine fishery working group. South Coast estuarine fishery working group. (February 1995)

- No. 77** The Offshore Constitutional Settlement, Western Australia. H. Brayford & G. Lyon (May 1995)
- No. 78** The Best Available Information - Its Implications for Recreational Fisheries Management. Workshop at Second National Fisheries Managers Conference, Bribie Island Queensland. F. Prokop (May 1995)
- No. 79** Management of the Northern Demersal Scalefish Fishery. J. Fowler (June 1995)
- No. 80** Management arrangements for specimen shell collection in Western Australia, 1995. J. Barrington & C. Campbell (March 1996)
- No. 81** Management Options (Discussion Paper) for the Shark Bay Snapper Limited Entry Fishery. Shark Bay Snapper Limited Entry Fishery Working Group, Chaired by Doug Bathgate (June 1995)
- No. 82** The Impact of the New Management Package on Smaller Operators in the Western Rock Lobster Fishery R. Gould (September 1995)
- No. 83** Translocation Issues in Western Australia. Proceedings of a Seminar and Workshop held on 26 and 27 September 1994. F. Prokop (July 1995)
- No. 84** Bag and Size Limit Regulations From Around Australia. Current Information as at 1 July 1995. Third Australasian Fisheries Managers Conference, Rottneest Island. F. Prokop (July 1995)
- No. 85** West Coast Rock Lobster Fishery Management Plan 1995 - Draft for Public Comment. Edited by M. Moran (August 1995)
- No. 86** A Review of Ministerial Policy Guidelines for Rock Lobster Processing in Western Australia from the Working Group appointed by the Minister for Fisheries and chaired by Peter Rich (December 1995)
- No. 87** Same Fish - Different Rules. Proceedings of the National Fisheries Management Network Workshop held as part of the Third Australasian Fisheries Managers Conference. F. Prokop
- No. 88** Balancing the Scales - Access and Equity in Fisheries Management - Proceedings of the Third Australasian Fisheries Managers Conference, Rottneest Island, Western Australia 2 - 4 August 1995. Edited by P. Summerfield (February 1996)
- No. 89** Fishermen's views on the future management of the rock lobster fishery. A report. Prepared on behalf of the Rock Lobster Industry Advisory Committee by The Marketing Centre. (August 1995)
- No. 90** A report on the issues effecting the use of the Dampier Archipelago. Peter Driscoll, Landvision Pty Ltd (March 1996)
- No. 91** Shark Bay World Heritage Property - Management Paper for Fish Resources. Kevin A Francesconi (September 1996)
- No. 92** Pearling and Aquaculture in the Dampier Archipelago - Existing and Proposed Operations. A report for public comment. Compiled by Ben Fraser (September 1996)
- No. 93** Shark Bay World Heritage Property - Summary of Public Submissions to the Draft Management Plan for Fish Resources. Kevin A Francesconi (September 1996)
- No. 94** Rock Lobster Industry Advisory Committee Report - Management arrangements for the Western Rock Lobster Fishery for the 1997/98 season. Frank Prokop (May 1997)
- No. 95** Australian Salmon and Herring Resource Allocation Committee. P McLeod & F Prokop (*in press*)
- No. 96** Summary Report of the Freshwater Aquaculture Taskforce (FAT) by Chris Wells (*in press*)
- No. 97** (*in press*)

- No. 98** A Pricing Policy for Fisheries Agencies - Standing Committee on Fisheries and Aquaculture Management Committee. P Millington (March 1997)
- No. 99** Management of the South Coast Purse Seine Fishery. J Fowler, R Lenanton, Kevin Donohue, M Moran & D Gaughan. (n.d.)
- No. 100** The Aquaculture of non-endemic species in Western Australia - Redclaw crayfish (*Cherax quadricarinatus*). Tina Thorne (June 1997)
- No. 101** Optimising the worth of the catch - Options and Issues. Marec Pty Ltd (September 1997)
- No. 102** Marine farm planning and consultation processes in Western Australia. Dave Overall (August 1997)
- No. 103** Future management of the aquatic charter industry in Western Australia by the Tour Operators Fishing Working Group (September 1997).
- No. 104** Management of the Houtman Abrolhos System (draft). Prepared by the Abrolhos Islands Management Advisory Committee in conjunction with Fisheries Western Australia (October 1997)
- No. 105** Plan for the Management of the Houtman Abrolhos Fish Habitat Protection Area (draft). Prepared by the Abrolhos Islands Management Advisory Committee in conjunction with Fisheries Western Australia (October 1997)
- No. 106** The impact of Occupational Safety and Health on the management of Western Australian Fisheries. Cameron Wilson (*in press*)
- No. 107** The Aquaculture of non-endemic species in Western Australia - Silver Perch (*Bidyanus bidyanus*). Tina Thorne (June 1997)
- No. 108** Issues affecting Western Australia's inshore crab fishery - Blue swimmer crab (*Portunus pelagicus*), Sand crab (*Ovalipes australiensis*). Cathy Campbell (September 1997)
- No. 109** Abalone Aquaculture in Western Australia. Cameron Westaway & Jeff Norriss (October 1997)
- No. 110** Proposed Voluntary Fishery Adjustment Scheme - South Coast Purse Seine Managed Fishery Report by Committee of Management (October 1997)
- No. 111** Management Options for Pilbara Demersal Line Fishing. Gaye Looby (December 1997)
- No. 112** Summary of Submissions to Fisheries Management Paper No. 108 - issues affecting Western Australia's inshore crab fishery. Compiled by Cathy Campbell (April 1998)
- No. 113** Western Rock Lobster Management - Options and Issues. Prepared by Kevin Donohue on behalf of the Rock Lobster Industry Advisory Committee. (June 1998)
- No. 114** A Strategy for the Future Management of the Joint Authority Northern Shark Fishery. Prepared by Tim Bray and Jo Kennedy. (June 1998)
- No. 115** Guidelines for granting Aquaculture Leases. Prepared by Fisheries WA, the Aquaculture Development Council & the Aquaculture Council of WA. (July 1998)
- No. 116** Future Management of the Aquatic Charter Industry in Western Australia - Final Report. By the Tour Operators Fishing Working Group (September 1998)
- No. 117** Management of the Houtman Abrolhos System. Prepared by the Abrolhos Islands Management Advisory Committee in conjunction with Fisheries Western Australia. (December 1998)
- No. 118** Plan for the Management of the Houtman Abrolhos Islands Fish Habitat Protection Area (Schedule 1)
- No. 119** Access to Wildstock for Aquaculture Purposes (not published)

- No. 120** Draft Management Plan for Sustainable Tourism at the Houtman Abrolhos Islands. Prepared by LeProvost, Dames and Moore for the Abrolhos Islands Management Advisory Committee in conjunction with Fisheries WA. (December 1998)
- No. 121** Future Directions for Tourism at the Houtman Abrolhos Islands - Draft for Public Comment. Prepared by LeProvost, Dames and Moore for the Abrolhos Islands Management Advisory Committee in conjunction with Fisheries WA. (December 1998)
- No. 122** Opportunities for the Holding/Fattening/Processing and Aquaculture of Western Rock Lobster (*Panulirus cygnus*). A discussion paper compiled by Fisheries WA. (November 1998)
- No. 123** Future directions for the Rock Lobster Industry Advisory Committee and the Western Rock Lobster Managed Fishery. A discussion paper prepared by Kevin Donohue on behalf of the Rock Lobster Industry Advisory Committee. (December 1998)
- No. 124** A Quality Future for Recreational Fishing in the Gascoyne. Proposals for Community Discussion. A five-year management strategy prepared by the Gascoyne Recreational Fishing Working Group (May 1999).
- No. 125** Changes to Offshore Constitutional Settlement Arrangements; North West Slope Trawl Fishery and Western Deepwater Trawl Fishery. A discussion paper by Fiona Crowe and Jane Borg (May 1999)[not published]
- No. 126** The South Coast Estuarine Fishery. A discussion paper by Rod Pearn and Tony Cappelluti. (May 1999)
- No. 127** The Translocation of Barramundi. A discussion paper by Makaira Pty Ltd.[July 1999]
- No. 128** Shark Bay Pink Snapper Managed Fisheries in WA
- No. 129** Review of the Western Australian Pilchard Fishery 12 - 16 April 1999. Prepared by K.L. Cochrane, Fisheries Resource Division, Food and Agriculture Division of the United Nations (November 1999)
- No. 130** Developing New Fisheries in Western Australia. A guide to applicants for developing fisheries Compiled by Lucy Halmarick (November 1999)
- No. 131** Management Directions for Western Australia's Estuarine and Marine Embayment Fisheries. A strategic approach to management (November 1999)
- No. 132** Summary of Submissions to Fisheries Management Paper No. 126 - The South Coast Estuarine Fishery - A Discussion Paper. Compiled by Rod Pearn (November 1999)
- No. 133** Abalone Aquaculture in Western Australia, A Policy Guideline (December 1999)
- No. 134** Management Directions for WA's Coastal Commercial Finfish Fisheries. Issues and proposals for community discussion (March 2000)
- No. 135** Protecting and Sharing Western Australia's Coastal Fish Resources. The path to integrated management. Issues and proposals for community discussion (March 2000)
- No. 136** Management Directions for WA's Recreational Fisheries (March 2000)
- No. 137** Aquaculture Plan for the Houtman Abrolhos Islands (April 2000)
- No. 138** Information on Quota Management of Rock Lobster Fisheries in South Australia, Tasmania and New Zealand. By Kevin Donohue and Eric Barker (May 2000)
- No. 139** A Quality Future for Recreational Fishing on the West Coast. Proposals for Community Discussion. A five-year management strategy prepared by the West Coast Recreational Fishing Working Group (June 1999)
- No. 140** Aquaculture Plan for the Recherche Archipelago, Western Australia. (June 2000)
- No. 141** Fish Protection Measures in Western Australia (June 2001)

- No. 142** Fisheries Environmental Management Plan for the Gascoyne Region (June 2002)
- No. 143** Western Rock Lobster. Discussion paper for seasons 2001/2002 and 2002/2003 (July 2000)
- No. 144** The Translocation of Brown Trout (*Salmo trutta*) and Rainbow Trout (*Oncorhynchus mykiss*) into and within Western Australia. Prepared by Jaqueline Chappell, contributions from Simon Hambleton, Dr Howard Gill, Dr David Morgan and Dr Noel Morrissy. (*not published, superseded by MP 156*)
- No. 145** The Aquaculture of non-endemic species in Western Australia - Silver Perch (*Bidyanus bidyanus*). As amended October 2000. Tina Thorne. This replaces Fisheries Management Paper No. 107.
- No. 146** Sustainable Tourism Plan for the Houtman Abrolhos Islands (February 2001)
- No. 147** Draft Bycatch Action Plan for the Shark Bay Prawn Managed Fishery (Full Report) (April 2002)
- No. 148** Draft Bycatch Action Plan for the Shark Bay Prawn Managed Fishery (Summary Report) (April 2002)
- No. 149** Final Plan of Management for the Lancelin Island Lagoon Fish Habitat Protection Area (March 2001)
- No. 150** Draft Plan of Management for the Cottesloe Reef Proposed Fish Habitat Protection Area (April 2001)
- No. 151** Inventory of the Land Conservation Values of the Houtman Abrolhos Islands (July 2003)
- No. 152** Guidelines for the Establishment of Fish Habitat Protection Areas (June 2001)
- No. 153** A Five-Year Management Strategy for Recreational Fishing on the West Coast of Western Australia. Final Report of the West Coast Recreational Fishing Working Group (August 2001).
- No. 154** A Five-Year Management Strategy for Recreational Fishing in the Gascoyne. Final Report of the Gascoyne Recreational Fishing Working Group (September 2001)
- No. 155** Plan of Management for the Cottesloe Reef Fish Habitat Protection Area (September 2001)
- No. 156** The Translocation of Brown Trout (*Salmo Trutta*) and Rainbow Trout (*Oncorhynchus mykiss*) into and within Western Australia (June 2002)
- No. 157** Policy for the Implementation of Ecologically Sustainable Development for Fisheries and Aquaculture within Western Australia. By W.J. Fletcher (May 2002)
- No. 158** Draft Plan of Management for the Miaboolya Beach Fish Habitat Protection Area (March 2002)
- No. 159** The Translocation of Barramundi (*Lates calcarifer*) for Aquaculture and Recreational Fishery Enhancement in Western Australia. By Tina Thorne.
- No. 160** The Introduction and Aquaculture of Non-endemic Species in Western Australia: the 'Rotund' Yabby *Cherax rotundus* and the All-male Hybrid Yabby. A Discussion Paper. (June 2002)
- No. 161** Plan of Management for the Miaboolya Beach Fish Habitat Protection Area (September 2002)
- No. 162** Reseeding of grazing gastropods and bivalves into the marine environment in Western Australia – a discussion paper. By Jane Borg.
- No. 163** Review of recreational take of coral in Western Australia – a discussion paper October 2002.
- No. 164** Report of the Mackerel Independent Advisory Panel to the Executive Director, Department of Fisheries, on criteria for access to, and management arrangements for, the proposed Mackerel Fishery (Interim) Management Plan (November 2002)

- No. 165** Report to the Minister for Agriculture, Forestry and Fisheries by the Integrated Fisheries Management Review Committee (November 2002)
- No. 166** Fisheries Statutory Management Authority Inquiry. A background paper (February 2003)
- No. 167** Draft Fisheries Environmental Management Plan for the Northern Region (*in press*)
- No. 168** Aboriginal Fishing Strategy: Report to the Minister for Agriculture, Forestry and Fisheries by the Hon E. M. Franklyn QC, Chairman of the Aboriginal Fishing Strategy Working Group (May 2003)
- No. 169** Hardy Inlet discussion paper (February 2004)
- No. 170** Management of the proposed Geographe Bay Blue Swimmer and Sand Crab Managed Fishery. By Jane Borg and Cathy Campbell (August 2003)
- No. 171** Draft Aquaculture Plan for Shark Bay (April 2004)
- No. 172** Draft Aquaculture Plan for Exmouth Gulf (April 2004)
- No. 173** Draft Plan of Management for the proposed Point Quobba Fish Habitat Protection Area (August 2003)
- No. 174** Translocation of Golden Perch, Murray Cod and Australian Bass into and within Western Australia for the Purposes of Recreational Stocking, Domestic Stocking and Commercial and Non-commercial Aquaculture (December 2003)
- No. 175** Fish Stock and Fishery Enhancement in Western Australia - a discussion paper. By Jane Borg (February 2004)
- No. 176** Fish Stock and Fishery Enhancement in Western Australia - a summary report. By Jane Borg (February 2004)
- No. 177** Fisheries Environmental Management Plan for the Gascoyne Region (*in press*)
- No. 178** Draft Plan of Management for the Kalbarri Blue Holes Fish Habitat Protection Area (March 2004)
- No. 179** A Draft Policy for the Translocation of Brown Trout (*Salmo trutta*) and Rainbow Trout (*Oncorhynchus mykiss*) into and within Western Australia for the Purposes of Recreational Stocking, Domestic Stocking and Commercial and Non-Commercial Aquaculture (August 2004)
- No. 180** The Sustainable Management of Western Australia's Temperate Shark Fisheries (July 2004).
- No. 181** A Quality Future for Recreational Fishing in the Pilbara/Kimberley. Proposals for Community Discussion. A five-year strategy for managing the recreational component of the catch, prepared by the Pilbara/Kimberley Recreational Fishing Working Group (July 2004)
- No. 182** A Quality Future for Recreational Fishing in the Southern Region of WA. Proposals for Community Discussion. A five-year strategy for managing the recreational component of the catch, prepared by the Southern Recreational Fishing Working Group (July 2004)
- No. 183** Final Report of the Fisheries Statutory Management Authority Advisory Committee. Published by the Department of Fisheries (*in press*)
- No. 184** South West Beach Seine Management Discussion Paper (*in press*)
- No. 185** Plan of Management for the Point Quobba Fish Habitat Protection Area (July 2004)